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ABSTRACT

A committee selected microcomputer software for inclusion in this publication, and then correlated the software to the South Carolina Basic Skills Assessment Program (BSAP) Mathematics Objectives for grades 1-8. It was noted that this correlation of 93 selected software programs to BSAP Mathematics Objectives should be used only as a beginning point; each program should be previewed and selected on the basis of local needs or objectives. (To facilitate such reviewing, labs with microcomputers and software have been established in six South Carolina locations.) Each software program is assigned a number and is then listed for BSAP objectives for concepts, operations, measurement, geometry, and problem solving, by grade level. Then, each software item is listed, with title, grade level, group size, instructional mode, BSAP objective(s), system requirement, producer, and price. The mathematics objectives for each grade level are included in another section. Guidelines for software evaluation and a producer list for software are also included. (MNS)

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Math Software BSAP Correlation

Grades 1–8 Revised

ED 265077

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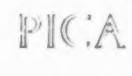

ADVISORY LISTING OF MICROCOMPUTER MATH PROGRAMS CORRELATED TO GRADES 1-8 BASIC SKILLS ASSESSMENT PROGRAM (BSAP) OBJECTIVES

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Revised May 1985

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INTRODUCTION

A Microcomputer Math Advisory Committee composed of in-state consultants and Department of Education personnel participated in a planning conference on April 2, 1985, for the purpose of revising the 1984 Math Basic Skills Assessment Program (BSAP) Objectives Correlation publication.

This committee examined grades 1-8 math software reviews that were not available for consideration and inclusion in the publication in 1984. Committee members also used their own knowledge of many of the programs in deciding whether or not to include them.

The selected software programs were then correlated to the math grades 1-8 BSAP Objectives by the method below. Please note that a particular program might be correlated to more than one objective. The thirty-one new programs added as a result of this revision are indicated by an asterisk (*).

Grades	1	2	3	4	5	6	7	8
Concepts	1-CN	2-CN	3-CN	4-CN	5-CN	6-CN	7-CN	8-CN
Operations	1-OP	2-OP	3-OP	4-OP	5-OP	6-OP	7-OP	8-OP
Measurement	1-MS	2-MS	3-MS	4-MS	5-MS	6-MS	7-MS	8-MS
Geometry	1-GE	2-GE	3-GE	4-GE	5-GE	6-GE	7-GE	8-GE
Problem Solving	1-PS	2-PS	3-PS	4-PS	5-PS	6-PS	7-PS	8-PS

This correlation of selected software to BSAP Math Objectives should be used only as a beginning point in the selection, purchase, and use of any of the software. Before buying any of these programs, each should be previewed and selected on the basis of your individual instructional needs or objectives. Software may receive good reviews and work well for others but not meet your needs. Ultimately one must individually select software for identified needs.

To provide assistance in reviewing software, a lab containing ten micro computers of various brands and much of the software included in this publication has been established at South Carolina ETV Center, 2712 Millwood Avenue, Columbia, SC 29250. Appointments to use this lab may be made by calling the Office of Instructional Technology (803) 758-7301. Additionally, labs have been established in our five regional offices. These labs have fewer micro computers and a smaller percentage of software than the Columbia lab. Arrangements for their use may be made by calling our regional offices. A list of these offices are located in the back of this publication. Information such as cost, publisher, hardware required for each program, etc., is provided for your information.

If you have questions concerning the software in the publication, please contact the Office of Instructional Technology, State Department of Education, Room 205, Rutledge Building, Columbia, South Carolina 29201.

Appreciation is expressed to all participants who developed these materials.

Clyde H. Green, Director
Office of Instructional Technology

CORRELATION OF MICROCOMPUTER SOFTWARE BY GRADES TO BSAP MATH OBJECTIVES

The software in this publication is correlated below to each BSAP math objective for grades 1-8. In this correlation, each software program has been assigned a number. On pages 1 - 32 of the publication, this software is arranged alphabetically and complete information about each title is included. A reminder - REVIEW SOFTWARE BEFORE PURCHASE.

BSAP OBJECTIVE - CONCEPTS

Grades	Assigned Number
1-	8, 12, 18, 19, 20, 21, 22, 30, 49, 51, 52, 53, 55, 58, 66, 71, 77, 85
2-	5, 8, 12, 14, 18, 19, 20, 21, 22, 30, 49, 51, 52, 53, 55, 58, 65, 66, 71, 74, 75, 76
3-	5, 8, 11, 12, 13, 14, 18, 19, 20, 21, 30, 33, 38, 49, 51, 52, 53, 55, 58 65, 66, 71, 74, 75, 76, 82
4-	5, 8, 11, 12, 13, 14, 15, 18, 19, 20, 24, 31, 33, 37, 38, 40, 44, 51, 52, 53, 55, 59, 65, 66, 71, 74, 75, 76, 78, 82, 88, 90
5-	2, 5, 8, 11, 12, 13, 14, 15, 18, 19, 20, 24, 31, 33, 35, 37, 38, 40, 44 45, 51, 52, 53, 55, 59, 65, 66, 71, 73, 76, 78, 82, 88, 90
6-	2, 5, 8, 11, 13, 14, 15, 18, 19, 20, 24, 25, 26, 31, 32, 35, 37, 38, 39, 40, 44, 45, 51, 53, 55, 59, 63, 65, 66, 73, 78, 81, 82, 87, 88, 90
7-	2, 11, 13, 15, 18, 19, 20, 24, 25, 26, 31, 32, 35, 37, 39, 40, 44, 45, 51, 53, 59, 65, 66, 73, 81, 82, 87, 88, 90
8-	2, 11, 13, 15, 18, 19, 20, 24, 25, 26, 31, 32, 35, 37, 39, 40, 44, 45, 51, 53, 59, 65, 66, 73, 81, 82, 87, 88, 90

BSAP OBJECTIVE - OPERATIONS

Grades	Assigned Number
1-	1, 3, 8, 9, 18, 19, 20, 21, 23, 29, 30, 36, 41, 51, 52, 53, 55, 57, 58, 60, 66, 79, 84, 86
2-	1, 3, 4, 5, 8, 9, 14, 18, 19, 20, 21, 23, 29, 30, 36, 41, 47, 51, 52, 53, 55, 57, 58, 60, 65, 66, 72, 74, 79, 84, 86
3-	3, 4, 5, 8, 9, 10, 11, 14, 18, 19, 20, 21, 23, 27, 30, 36, 41, 46, 47, 51, 52, 53, 54, 55, 56, 57, 58, 60, 65, 66, 72, 74, 79, 82, 84, 86
4-	3, 4, 5, 6, 8, 9, 10, 11, 14, 15, 18, 19, 20, 23, 27, 28, 31, 36, 37, 41, 44, 46, 47, 51, 52, 53, 54, 55, 56, 57, 59, 60, 61, 65, 66, 72, 74, 78, 79, 82, 84, 86, 89, 90
5-	3, 4, 5, 6, 8, 10, 11, 14, 15, 18, 19, 20, 27, 28, 31, 36, 37, 41, 44, 46, 47, 48, 51, 52, 53, 54, 55, 56, 57, 59, 60, 62, 65, 66, 72, 73, 78, 82, 84, 86, 89, 90, 93
6-	3, 4, 5, 6, 8, 10, 11, 14, 15, 18, 19, 20, 25, 28, 31, 32, 36, 37, 39, 41, 44, 46, 47, 48, 51, 53, 54, 55, 56, 57, 59, 60, 63, 65, 66, 68, 73, 78, 81, 82, 84, 86, 87, 89, 90, 93
7-	4, 6, 11, 15, 18, 19, 20, 25, 28, 31, 32, 36, 37, 39, 41, 44, 46, 47, 48, 51, 53, 56, 57, 59, 65, 66, 68, 73, 81, 82, 86, 87, 89, 90, 93
8-	4, 6, 11, 15, 18, 19, 20, 25, 28, 31, 32, 36, 37, 39, 41, 44, 47, 48, 51, 53, 56, 57, 59, 65, 66, 68, 73, 81, 82, 86, 87, 89, 90, 93

BSAP OBJECTIVE - MEASUREMENT

Grades	Assigned Number
1-	15, 16, 18, 19, 50, 51, 53, 69
2-	15, 16, 18, 19, 50, 51, 53, 65, 69
3-	15, 16, 18, 19, 51, 53, 65, 69
4-	15, 16, 18, 19, 34, 44, 51, 53, 65, 69
5-	15, 16, 18, 19, 34, 44, 51, 53, 65, 69
6-	15, 16, 18, 19, 32, 34, 44, 51, 53, 63, 65, 87
7-	15, 18, 19, 32, 34, 44, 51, 53, 65, 87
8-	15, 18, 19, 32, 34, 44, 51, 53, 65, 87

BSAP OBJECTIVE - GEOMETRY

Grades	Assigned Number
1-	15, 18, 19, 51, 53
2-	15, 18, 19, 51, 53, 65
3-	15, 18, 19, 51, 53, 65
4-	15, 18, 19, 51, 53, 65
5-	15, 18, 19, 35, 51, 53, 65, 92
6-	15, 18, 19, 32, 35, 51, 53, 63, 64, 65, 92
7-	15, 18, 19, 32, 35, 51, 53, 64, 65, 66, 92
8-	15, 18, 19, 32, 35, 51, 53, 64, 65, 66, 92

BSAP OBJECTIVE - PROBLEM SOLVING

Grades	Assigned Number
1-	12, 15, 18, 19, 23, 42, 43, 51, 53, 57, 71
2-	4, 5, 12, 14, 15, 18, 19, 23, 42, 43, 51, 53, 57, 65, 71
3-	4, 5, 7, 12, 13, 14, 15, 18, 19, 23, 42, 43, 46, 51, 53, 57, 65, 67, 70, 71
4-	4, 5, 7, 12, 13, 14, 15, 17, 18, 19, 23, 42, 43, 44, 46, 51, 53, 57, 61, 65, 67, 70, 71, 83, 88, 89, 91
5-	4, 5, 7, 12, 13, 14, 15, 17, 18, 19, 42, 44, 46, 51, 53, 57, 62, 65, 67, 70, 71, 80, 83, 88, 89, 91
6-	4, 5, 7, 13, 14, 15, 17, 18, 19, 32, 39, 42, 44, 46, 51, 53, 57, 63, 65, 67, 70, 80, 83, 87, 88, 89, 91
7-	4, 7, 13, 15, 17, 18, 19, 32, 39, 44, 46, 51, 53, 57, 65, 70, 80, 83, 87, 88, 89, 91
8-	4, 7, 13, 15, 17, 18, 19, 32, 39, 44, 51, 53, 57, 65, 70, 80, 83, 87, 88, 89, 91

GRADES 1-8
MATH SOFTWARE BSAP CORRELATION

1. Title: ADDITION AND SUBTRACTION 1 & 2 1981
Grade Level: 1-2
Group Size: Individual or small group
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-OP, 2-OP

System Requirement: TI 99/4A, 16K, cartridge, color monitor, BASIC, TI Speech Synthesizer optional; Apple II, 64K, BASIC

Producer: Scott, Foresman and Company
1900 East Lake Avenue
Glenview, IL 60025
Price: $39.95

2. Title: ADVENTURES WITH FRACTIONS 1983
Grade Level: 5-8
Group Size: Individual
Instructional Mode: Tutorial
BSAP OBJECTIVE: 5-CN; 6-CN; 7-CN; 8-CN

System Requirement: Apple 48K

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $45

3. Title: ARCADEMIC SKILL BUILDERS 1982
Grade Level: 1-6
Group Size: Individual
Instructional Mode: Arcade type game
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP; 5-OP; 6-OP

System Requirement: Apple II, 48K, disk drive, Applesoft (paddle optional)
IBM PC & PCjr, 128K, DOS 2.1/2.0

Producer: Developmental Learning Materials (DLM)
1 DLM Park
Allen, TX 75002
Price: $44 per program, $220 set of 6 (ALIEN ADDITION, MINUS MISSION, DRAGON MIX, METEOR MULTIPLICATION, DEMOLITION DIVISION, ALLIGATOR MIX)

4. Title: ARITH-MAGIC 1982
Grade Level: 2-8
Group Size: Individual, small group
Instructional Mode: Educational game, tutorial
BSAP OBJECTIVE: 2-OP,PS; 3-OP,PS; 4-OP,PS; 5-OP,PS; 6-OP,PS; 7-OP,PS; 8-OP,PS

System Requirement: Apple II, 48K, Applesoft, DOS 3.3 or 32K, DOS 3.2
PET/CBM, 16K, disk or cassette; TRS-80 Model I, Level 2
or Model III, 32K, disk or 16K cassette

Producer: Quality Educational Designs
2924 N. E. Stanton/P.O. Box 12486
Portland, OR 97212
Price: $35

5. Title: ARITHMETIC GAMES 1981
Grade Level: 2-6
Group Size: Individual, small group, class
Instructional Mode: Skills practice, educational game
BSAP OBJECTIVE: 2-CN,OP,PS; 3-CN,OP,PS; 4-CN,OP,PS; 5-CN,OP,PS; 6-CN,OP,PS

System Requirement: Apple II+, 48K or Apple 48K with Applesoft Firmware
Card, disk drive, color monitor (optional); Tandy 1000, 128K,
TRS-80 Model II, 48K, Disk (Sets 1 & 2 only)
IBM PC, PCjr, 64K BASIC & DOS; 96K, BASIC, DOS 2.0/2.1; 128K,
BASIC, DOS 2.1

Producer: Science Research Associates, Incorporated (SRA)
5060 Riverhill Road
Marietta, GA 30067
Price: $150

6. Title: * ARITHMETIC RACING 1980, 1981, Rev. 1982
Grade Level: 4-8
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 4,OP; 5,OP; 6,OP; 7,OP; 8,OP

System Requirement: Apple II, II+, IIe, 48K, floppy disk drive, Applesoft, DOS 3.3

Producer: Math Software
1233 Blackthorne Place
Deerfield, IL 60013
Price: Not sold individually; sold in packages of 5-10 programs
ranging from $100 to $250

*New program

7. Title: BAGELS 1980
Grade Level: Elementary
Group Size: Individual or small group
Instructional Mode: Educational game
BSAP OBJECTIVE: 3-PS, 4-PS; 5-PS; 6-PS; 7-PS; 8-PS

System Requirement: Apple II or II+, 32K, disk drive, Applesoft, BASIC; Atari 400 or 800, 16K, disk drive, BASIC

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $30, per diskette

8. Title: * BASIC ARITHMETIC 1982
Grade Level: 1-6
Group Size: Individual, pairs, small class
Instructional Mode: Tutorial, drill and practice
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP; 4-CN,OP; 5-CN,OP; 6-CN,OP

System Requirement: Atari 400/800, 48K, disk drive, BASIC, DOS; Apple II+,IIc,IIe, 48K, disk drive, BASIC, Applesoft, DOS 3.3; Commodore 64, 64K, disk drive; TRS-80 Model III/IV, 48K, disk drive, disk BASIC, TRSDOS

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $44, on disk

9. Title: BASIC MATH SKILL GAMES 1978
Grade Level: 1-4
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP

System Requirement: Apple II, 32K, Applesoft II BASIC ROM card; TRS-80 Model I Level II, disk drive(s)

Producer: Mentor Software Systems, Inc.
962 Deleware Avenue
Lexington, KY 40505
Price: $94.95

*New Program

10. Title: * BASIC NUMBER FACTS (PLATO) 1984
Grade Level: 3-6
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 3-OP; 4-OP; 5-OP; 6-OP

System Requirement: Apple II+, IIe, 48K, disk drive, Applesoft, DOS 3.3;
Atari 800, 48K, disk drive, DOS; TI 99/4A, 32K, disk drive

Producer: Control Data Publishing Company
3111 Sibley Memorial Drive
Eagan, MN 55121
Price: $49.95

11. Title: * BUILDING ESTIMATION SKILLS 1982
Grade Level: 3-8
Group Size: Individual, small group
Instructional Mode: Skills practice
BSAP OBJECTIVE: 3-CN,OP; 4-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II, II+, IIe, 32K, disk drive, Applesoft, DOS 3.3

Producer: Cuisenaire Company of America, Inc.
12 Church Street, Box D
New Rochelle, NY 10805
Price: $65

12. Title: BUMBLE GAMES 1982
Grade Level: 1-5
Group Size: Individual, small group
Instructional Mode: Educational game, tutorial, problem solving
BSAP OBJECTIVE: 1-CN,PS; 2-CN,PS; 3-CN,PS; 4-CN,PS; 5-CN,PS

System Requirement: Apple II, 48K, disk drive, Applesoft, DOS 3.3;
TRS-80 color computer
IBM PC & PCjr DOS 2.1, 64K, 128 RAM, PC/AT-DOS 3.0
& 1 disk drive

Producer: The Learning Company
4370 Alpine Road
Portola Valley, CA 94025
Price: $39.95

*New program

13. Title: BUMBLE PLOT 1982
Grade Level: 3-8
Group Size: Individual, small group or class
Instructional Mode: Tutorial, educational game, logic & problem solving
BSAP OBJECTIVE: 3-CN,PS; 4-CN,PS; 5-CN,PS; 6-CN,PS; 7-CN,PS; 8-CN,PS

System Requirement: Apple II, II+, IIe, 48K, disk drive, color monitor; TRS-80 color computer, 16K, disk drive or cassette recorder, color monitor, joy sticks optional; IBM PC & PCjr, 64K, 128K RAM, 1 disk drive

Producer: The Learning Company (Apple Version)
4370 Alpine Road
Portola Valley, CA 94025

Follette Library Book Company (TRS-80 Color Computer Version)
4506 N.W. Highway
Crystal Lake, IL 60014

Price: $40.00

14. Title: CHALLENGE MATH 1982, 1983
Grade Level: 2-6
Group Size: Individual or small group
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 2-CN,OP,PS; 3-CN,OP,PS; 4-CN,OP,PS; 5-CN,OP,PS; 6-CN,OP,PS

System Requirement: Apple II, II+, IIe, 48K, disk drive, BASIC; Commodore 64, 64K, disk drive, BASIC, color monitor optional

Producer: Sunburst Communications, Incorporated
39 Washington Avenue
Pleasantville, NY 10507

Price: $49.00

15. Title: CLASSROOM MANAGEMENT SYSTEM: MATHEMATICS, LEVEL B 1980
Grade Level: 4-8
Group Size: Individual
Instructional Mode: Class management
BSAP OBJECTIVE: 4-CN,OP,MS,GE,PS; 5-CN,OP,MS,GE,PS; 6-CN,OP,MS,GE,PS; 7-CN,OP,MS,GE,PS; 8-CN,OP,MS,GE,PS

System Requirement: Apple II+, 48K, Applesoft, disk drive, printer

Producer: Science Research Associates, Incorporated (SRA)
5060 Riverhill Road
Marietta, GA 30067

Price: $595.00

16. Title: CLOCK 1983
Grade Level: 1-6
Group Size: Individual, small group
Instructional Mode: Drill and practice, tutorial, diagnostic
BSAP OBJECTIVE: 1-MS; 2-MS; 3-MS; 4-MS; 5-MS; 6-MS

System Requirement: Apple II, 48K, disk drive, Applesoft (printer optional)

Producer: Hartley Courseware, Incorporated
P. O. Box 431
Dimondale, MI 48821
Price: $39.95

17. Title: COLOR KEYS: STRATEGIES IN PROBLEM SOLVING 1983
Grade Level: 4-8
Group Size: Individual
Instructional Mode: Simulation, educational game
BSAP OBJECTIVE: 4-PS; 5-PS; 6-PS; 7-PS; 8-PS

System Requirement: Apple II, II+, IIe, disk drive, Applesoft, DOS 3.3

Producer: Sunburst Communications, Incorporated
39 Washington Avenue
Pleasantville, NY 10507
Price: $50.00

18. Title: COMPUTER DRILL AND INSTRUCTION: MATHEMATICS 1981
Grade Level: 1-8
Group Size: Individual and classroom
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-CN,OP,MS,GE,PS; 2-CN,OP,MS,GE,PS; 3-CN,OP,MS,GE,PS; 4-CN,OP,MS,GE,PS; 5-CN,OP,MS,GE,PS; 6-CN,OP,MS,GE,PS; 7-CN,OP,MS,GE,PS; 8-CN,OP,MS,GE,PS

System Requirement: Apple II, II+, IIc, 48K, disk drive, Applesoft, DOS 3.3, printer optional; IBM PCjr, 64K, disk drive, graphics card and customer supplied BMDOS; TRS-80 Model III, 48K, disk.

Producer: Science Research Associates, Incorporated (SRA)
5060 Riverhill Road
Marietta, GA 30067
Price: Level A. Managed: $325, Unmanaged: $210
Level B. Managed: $425, Unmanaged: $330
Level C. Managed: $475, Unmanaged: $400
Level D. Managed: $575, (1983-Grades 7 & 8)

19. Title: COMPUTER MATH ACTIVITIES VOLUMES I-V 1983, 1985
Grade Level: 1-8
Group Size: Individual and classroom
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-CN,OP,MS,GE,PS; 2-CN,OP,MS,GE,PS; 3-CN,OP,MS,GE,PS; 4-CN,OP,MS,GE,PS; 5-CN,OP,MS,GE,PS; 6-CN,OP,MS,GE,PS; 7-CN,OP,MS,GE,PS; 8-CN,OP,MS,GE,PS

System Requirement: Apple II, 32K, single disk drive, monitor

Producer: Addison-Wesley Publishing Company
Sand Hill Road
Menlo Park, CA 94025
Price: $64.40 per volume

20. Title: COMPUTER MATH GAMES, VOLUME I
Grade Level: 1-8
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP; 4-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP: 8-CN,OP

System Requirement: Apple II, II+, IIe, 32K, single disk drive, monitor or television

Producer: Addison-Wesley Publishing Company
Sand Hill Road
Menlo Park, CA 94025
Price: Individual volumes 1,2,3,4,6 - $54
Volume 5 - $39
Volume 7 - $45
7 Volume Series - $324

21. Title: * COUNT, ADD 1, ADD 2, ADD 3 1982
Grade Level: 1-3
Group Size: Individual, small group
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP

System Requirement: Apple II, II+, 32K, DOS 3.2 or 3.3, Applesoft

Producer: Edu-Soft
P. O. Box 2560
Berkeley, CA 94702
Price: $19.95

*New Program

22. Title: * COUNTING
Grade Level: 1-2
Group Size: Individual, small group
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-CN; 2-CN

System Requirement: Atari 400/800, 16K, floppy disk drive, BASIC, DOS

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $37.00

23. Title: CUBBYHOLES 1982
Grade Level: 1-4
Group Size: Individual, small group
Instructional Mode: Educational game
BSAP OBJECTIVE: 1-OP,PS; 2-OP,PS; 3-OP,PS; 4-OP,PS

System Requirement: Atari 400/800, 24K disk or 16K cassette, joysticks

Producer: Atari Program Exchange
P. O. Box 427
155 Moffett Park Drive
Sunnyvale, CA 94086
Price: $17.95

24. Title: * DECIMAL ESTIMATION 1981
Grade Level: 4-8
Group Size: Individual, small group
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 4-CN; 5-CN; 6-CN; 7-CN; 8-CN

System Requirement: Apple II, II+, IIe, 16K, DOS 3.2 or 3.3, disk drive or cassette recorder, Applesoft BASIC; Atari 400/800, 16K, disk drive or cassette recorder, BASIC; TRS-80 Model I or III, 16K, cassette recorder or 32K disk drive, Level II, BASIC; Commodore 64, 64K, cassette recorder or disk drive, BASIC

Producer: School and Home CourseWare, Incorporated
1341 Bulldog Lane, Suite C
Fresno, CA 93710
Price: $24.95

*New program

25. Title: DECIMAL SKILLS 1982
Grade Level: 6-8
Group Size: Individual or small group
Instructional Mode: Drill and practice with classroom management
BSAP OBJECTIVE: 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft, BASIC

Producer: Milton Bradley Company
443 Shaker Road
East Longmeadow, MA 01028
Price: $49.95, $20.00 back-up, $6.00 demo and guide

26. Title: * DECIMALS 1983
Grade Level: 6-8
Group Size: Individual, small group
Instructional Mode: Tutorial, educational game
BSAP OBJECTIVE: 6-CN; 7-CN; 8-CN

System Requirement: Apple II, 48K, disk drive, Applesoft BASIC;
Commodore 64, 64K, disk drive, BASIC;
PET, 16K, disk drive, BASIC;
TRS-80 Model I, 32K, cassette recorder, BASIC;
TRS-80 Model III, 32K, disk drive, BASIC

Producer: Quality Educational Designs
Box 12486
Portland, OR 97212
Price: $120.00

27. Title: DIVISION I
Grade Level: 3-5
Group Size: Individual
Instructional Mode: Drill and practice, tutorial
BSAP OBJECTIVE: 3-OP; 4-OP; 5-OP

System Requirement: TI 99/4 and TI 99/4A, color video, speech synthesizer headset and adapter optional

Producer: Scott, Foresman and Company
1900 East Lake Avenue
Glenview, IL 60025
Price: $39.95

*New program

28. Title: DIVISION SKILLS 1982
Grade Level: 6-8
Group Size: Individual, small group or class
Instructional Mode: Tutorial, drill and practice
BSAP OBJECTIVE: 4-OP; 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft BASIC, color monitor optional

Producer: Milton Bradley Company
443 Shaker Road
East Longmeadow, MA 01028
Price: $49.95

29. Title: EARLY ADDITION 1983
Grade Level: 1-2
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-OP; 2-OP

System Requirement: Apple II+, IIe, IIc, 48K, disk drive, Applesoft, DOS 3.3; Atari 400/800/1200, 48K, disk drive, DOS

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $45.00

30. Title: EARLY GAMES FOR YOUNG CHILDREN 1983
Grade Level: 1-3
Group Size: Individual or small group
Instructional Mode: Skills practice, educational game
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP

System Requirement: Apple II, II+, IIe, 48K, DOS 3.3, diskette;
Atari 400/800/1200, 16K, cassette, 24K, diskette;
Commodore 64, cassette, diskette;
Commodore VIC-20, cassette, diskette;
IBM-PC, diskette;
TI 99/4A, cassette, diskette;
TRS-80 Model I, III, cassette, diskette;
TRS-80 Color Computer, cassette, diskette

Producer: Counterpoint Software, Incorporated
4005 West 65th Street, Suite 218
Minneapolis, MN 55423
Price: $29.95

31. Title: ELEMENTARY MATHEMATICS CLASSROOM LEARNING SYSTEM 1982
Grade Level: 4-8
Group Size: Individual or small group
Instructional Mode: Drill and practice with classroom management, tutorial, educational game
BSAP OBJECTIVE: 4-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft, BASIC, game paddles required for one of the Supplementary games. Disk sharing version available, printer optional; ACORN, 64K; Tandy 1000, 128K, MSDOS; IBM PC, PCjr, MS DOS 1.1, 2.0 or 2.1. Color graphics card required, 128K.

Producer: Sterling Swift Publishing Company
7901 South I-35
Austin, TX 78744
Price: $495 for first set, $295 for subsequent sets billed to same account, $9.95 for "Hands-On Preview" diskette with sample documentation (refundable upon purchase of a set)

32. Title: * ESSENTIAL MATH PROGRAM (2 Volumes) 1980, 1982
Grade Level: 6-8
Group Size: Individual, small group, class
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 6-CN,OP,MS,GE,PS; 7-CN,OP,MS,GE,PS; 8-CN,OP,MS,GE,PS

System Requirement: TRS-80 Model I, III, IV, 32K, disk drive or 16K cassette recorder, BASIC

Producer: Radio Shack Educational Division
1400 One Tandy Center
Ft. Worth, TX 76102
Price: $199.00 per volume

33. Title: EXPANDED NOTATION 1982
Grade Level: 3-5
Group Size: Individual, small group
Instructional Mode: Drill and practice, tutorial
BSAP OBJECTIVE: 3-CN; 4-CN; 5-CN

System Requirement: Apple, 48K, single disk drive, printer optional

Producer: Hartley Courseware, Incorporated
P. O. Box 431
Dimondale, MI 48821
Price: $29.95

*New program

34. Title: EXPLORER METROS: A METRIC ADVENTURE 1982
Grade Level: 4-8
Group Size: Individual, small group
Instructional Mode: Simulation, educational game
BSAP OBJECTIVE: 4-MS; 5-MS; 6-MS; 7-MS; 8-MS

System Requirement: Apple II, II+, IIe, 48K, DOS 3.3, disk drive, Applesoft BASIC, color monitor optional

Producer: Sunburst Communications, Incorporated
39 Washington Avenue
Pleasantville, NY 10507
Price: $49.00

35. Title: FACTORING WHOLE NUMBERS 1983
Grade Level: 5-8
Group Size: Individual, small group
Instructional Mode: Tutorial, drill and practice
BSAP OBJECTIVE: 5-CN,GE; 6-CN,GE; 7-CN,GE; 8-CN,GE

System Requirement: Apple II, 48K, Applesoft, DOS 3.3, 32K DOS 3.2; PET/CBM, 16K, disk or cassette; TRS-80 Model I level 2 or Model III, 32K, disk or 16K cassette

Producer: Quality Educational Designs
2924 N. E. Stanton
P. O. Box 12486
Portland, OR 97212
Price: $90.00

36. Title: FACT TRACK 1981
Grade Level: 1-8
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP; 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: Apple II+, II, 48K, Applesoft firmware card, disk drive IBM PC, PCjr, DOS 2.0, 128K

Producer: Science Research Associates, Incorporated (SRA)
5060 Riverhill Road
Marietta, GA 30067
Price: $90.00

37. Title: FRACTIONS 1979, 1981, 1982
Grade Level: 4-8
Group Size: Individual
Instructional Mode: Drill and practice, tutorial, educational game
BSAP OBJECTIVE: 4-CN,OP; 5-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: TRS-80 Model I, III, 16K, cassette recorder or 32K disk drive BASIC; Apple II, II+, 32K for DOS 3.2 or 48K for DOS 3.3, disk drive, Applesoft, BASIC; PET, 16K, cassette recorder or disk drive BASIC

Producer: Quality Educational Designs
2924 N.E. Stanton
P. O. Box 12486
Portland, OR 97212
Price: $175.00

38. Title: * FRACTIONS I 1983
Grade Level: 3-6
Group Size: Individual
Instructional Mode: Drill and practice, tutorial
BSAP OBJECTIVE: 3-CN; 4-CN; 5-CN; 6-CN

System Requirement: TI 99/4A, 16K, Speech Synthesizer (optional); Apple II, II+, IIe, 48K, disk drive, Applesoft, DOS 3.3; Atari 400/600XL/800/800XL/1200XL/1400XL/1450XL, 16K, cartridge

Producer: Scott, Foresman and Company
1900 East Lake Avenue
Glenview, IL 60025
Price: $34.95

39. Title: * FRACTIONS, DECIMALS AND PERCENT 1983
Grade Level: 6-8
Group Size: Individual
Instructional Mode: Drill and practice, tutorial
BSAP OBJECTIVE: 6-CN,OP,PS; 7-CN,OP,PS; 8-CN,OP,PS

System Requirement: Apple II, II+, IIe, 48K, DOS 3.3 Applesoft

Producer: Society for Visual Education, Incorporated (SVE)
1345 Diversey Parkway
Chicago, IL 60614
Price: $299.00 (6 diskettes, 24-page teacher's guide, 36 reproducible worksheets, 1 class record sheet, 1 student information sheet, 2-page student progress sheet.) Backups available.

*New program

40. Title: FRACTIONS PRACTICE (PLATO) 1983
Grade Level: 4-8
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 4-CN; 5-CN; 6-CN; 7-CN; 8-CN

System Requirement: Apple II+, 48K, disk drive, TV or monitor, Applesoft DOS 3.3
Atari 800; TI 99 4/A; IBM PC

Producer: Control Data Publishing Company
P. O. Box 261127
San Diego, CA 92126
Price: $60.00

41. Title: GALAXY MATH FACTS GAME 1981
Grade Level: 1-8
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP; 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: Apple II+, IIe, 48K, disk drive, Applesoft BASIC;
TRS-80 Model I, III, 16K, cassette recorder or 48K,
disk drive, BASIC. Networking available for disk
versions. IBM PC, PCjr, graphic card, DOS 2.0,
color monitor optional

Producer: Random House School Division
2970 Brandywine Road
Atlanta, GA 30341
Price: $147 diskette, $99 cassette

42. Title: GERTRUDE'S PUZZLES 1983
Grade Level: 1-6
Group Size: Individual, small group
Instructional Mode: Educational game
BSAP OBJECTIVES: 1-PS; 2-PS; 3-PS; 4-PS; 5-PS; 6-PS

System Requirement: Apple II, 48K, disk drive, Applesoft DOS 3.3;
IBM PC, PCjr, 128KB, RAM, 1 disk drive, DOS 3.0

Producer: The Learning Company
4370 Alpine Road
Portola Valley, CA 94025
Price: $44.95

43. Title: GERTRUDE'S SECRETS 1983
Grade Level: 1-4
Group Size: Individual, small group
Instructional Mode: Educational game
BSAP OBJECTIVE: 1-PS; 2-PS; 3-PS; 4-PS

System Requirement: Apple II, 48K, disk drive, Applesoft, DOS 3.3; IBM PC, PCjr, 128K, RAM, 1 disk drive, DOS 3.0 for PC/AT

Producer: The Learning Company
4370 Alpine Road
Portola Valley, CA 94025
Price: $44.95

44. Title: GOLF CLASSIC/COMPUBAR 1982
Grade Level: 4-8
Group Size: Individual or small group
Instructional Mode: Educational game, logic and problem solving
BSAP OBJECTIVE: 4-CN,OP,MS,PS; 5-CN,OP,MS,PS; 6-CN,OP,MS,PS; 7-CN,OP,MS,PS; 8-CN,OP,MS,PS

System Requirement: Apple II, II+, IIe, 16K, cassette recorder or 32K, disk drive, BASIC and Assembler; Atari 400/800, 16K, cassette recorder, 32K, disk drive, Atari BASIC cartridge and Assembler, color monitor optional; IBM PC, PCjr, 128K, DOS 2.1/2.0

Producer: Milliken Publishing Company
1100 Research Boulevard
St. Louis, MO 63132
Price: $39.95 diskette, $34.95 cassette
School package: $44.95 diskette, $39.95 cassette (includes supplementary materials). Back-up copies available at 1/2 price.

45. Title: GROWGIN'S FRACTIONS 1983
Grade Level: 5-8
Group Size: Individual
Instructional Mode: Tutorial, educational game
BSAP OBJECTIVE: 5-CN; 6-CN; 7-CN; 8-CN

System Requirement: Apple II+, IIe, IIc, 48K, disk drive, Applesoft, DOS 3.3

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $45.00

46. Title: GUINNESS WORLD RECORDS PROBLEM AREAS IN MATH 1982
Grade Level: 3-7
Group Size: Individual or small group
Instructional Mode: Tutorial
BSAP OBJECTIVE: 3-OP,PS; 4-OP,PS; 5-OP,PS; 6-OP,PS; 7-OP,PS

System Requirement: Apple II, II+, 48K, disk drive, Applesoft, color monitor

Producer: Society for Visual Education (SVE)
1345 Diversey Parkway
Chicago, IL 60614
Price: $225.00 ($99.00 - 2 disk package-Addition), ($99.00 - 2 disk package-Subtraction)

47. Title: * HEY, TAXI! 1983
Grade Level: 2-8
Group Size: Individual
Instructional Mode: Skills practice, educational game
BSAP OBJECTIVE: 2-OP; 3-OP; 4-OP; 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft, DOS 3.3

Producer: Media Materials
2936 Remington Avenue
Baltimore, MD 21211
Price: $39.95

48. Title: INTEGERS 1982
Grade Level: 5-8
Group Size: Individual, small group
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: TRS-80 Model I/III/IV, 16K, disk drive or cassette recorder, BASIC; TRS-80 Model III/IV, 32K, disk drive, disk BASIC, TRSDOS; Apple II+, IIe, 16K, disk drive, Applesoft, DOS 3.3; Atari 400/800/1200, 48K, cassette recorder, BASIC

Producer: Edu-Soft
Box 2560
Berkeley, CA 94702
Price: $24.95

*New program

49. Title: * INTRODUCTION TO COUNTING 1982
Grade Level: 1-3
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-CN; 2-CN; 3-CN

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft BASIC

Producer: Ed-Ware Services
28035 Dorothy Drive
Agoura, CA 91301
Price: $38.95

50. Title: * IT'S ABOUT TIME 1982
Grade Level: 1-2
Group Size: Individual, small group
Instructional Mode: Rote drill, skills practice, educational game
BSAP OBJECTIVE: 1-MS; 2-MS

System Requirement: Apple II+, IIe, Applesoft, DOS 3.3; Atari 400/600XL/800/800XL/1200XL/1400XL/1450XL, 16K, cassette recorder, joystick, BASIC; Atari 400/600XL/800/800XL/1200XL/1400XL/1450XL, 24K, disk drive, joystick, DOS

Producer: McCarthy-McCormick, Incorporated
1440 Oak Hills Drive
Colorado Springs, CO 80919
Price: $20.00 - Tape
$25.00 - Disk

51. Title: * K-8 MATH PROGRAM 1980
Grade Level: 1-8
Group Size: Individual
Instructional Mode: Drill and practice with classroom management
BSAP OBJECTIVE: 1-CN,OP,MS,GE,PS; 2-CN,OP,MS,GE,PS; 3-CN,OP,MS,GE,PS; 4-CN,OP,MS,GE,PS; 5-CN,OP,MS,GE,PS; 6-CN,OP,MS,GE,PS 7-CN,OP,MS,GE,PS; 8-CN,OP,MS,GE,PS

System Requirement: TRS-80 Model I,III, 16K, cassette, 32K, diskette, Level II or Model III, BASIC, printer optional, color computer, 32K, or compatible cassette tape player, optional

Producer: Radio Shack
1600 One Tandy Center
Ft. Worth, TX 76102
Price: $199.00 (5 cassettes or 3 diskettes, teacher's manual)

*New program

52. Title: LEARNING ABOUT NUMBERS 1983
Grade Level: 1-5
Group Size: Individual, small group
Instructional Mode: Drill and practice with classroom management
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP; 4-CN,OP; 5-CN,OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, BASIC and machine language

Producer: C & C Software
5713 Kentford Circle
Wichita, KS 67220
Price: $40.00

53. Title: LOGO
Grade Level: 1-8
Group Size: Individual, small group
Instructional Mode: These LOGO software packages in and of themselves will not teach BSAP Objectives. They may, however, be adapted by teachers and used for that purpose.
1-CN,OP,MS,GE,PS; 2-CN,OP,MS,GE,PS; 3-CN,OP,MS,GE,PS;
4-CN,OP,MS,GE,PS; 5-CN,OP,MS,GE,PS; 6-CN,OP,MS,GE,PS;
7-CN,OP,MS,GE,PS; 8-CN,OP,MS,GE,PS

System Requirement: Apple II, II+, IIe, 64K, DOS 3.3, diskette
Atari 400/800/1200XL cartridge
Commodore 64 with 1541 floppy disk drive
IBM PS, 64K, DOS 2.1 or IBM PCjr; 128K, 1 disk drive, DOS 3.0 PC/AT
TI 99/4A with Peripheral Expansion Box, 32K memory-expansion card
Radio Shack Model 4, Color Computer and Tandy 1000

Producer: Versions of LOGO have been written by a number of companies for a variety of computers. A color monitor is recommended for use with all versions.
Apple LOGO - Apple Computer Incorporated
Atari LOGO - Atari Incorporated
Commodore LOGO - Commodore Business Machines, Incorporated
IBM LOGO - LOGO Computer Systems, Incorporated
Terrapin LOGO - Terrapin, Incorporated
TI LOGO - Texas Instruments, Incorporated
Krell LOGO - Krell Software
Radio Shack LOGO - Radio Shack Computer Center
Price: Apple - $70.00
Atari - Under $100.00
Commodore - $79.95
IBM - $199.95
Terrapin - $99.95 floppy disk, $300.00 hard disk
TI - $129.95
Krell - $89.95

54. Title: LONG DIVISION 1983
Grade Level: 3-6
Group Size: Individual, small group
Instructional Mode: Tutorial, drill and practice
BSAP OBJECTIVE: 3-OP; 4-OP; 5-OP; 6-OP

System Requirement: Apple II, Applesoft, 48K, disk drive;
Atari, 32K, disk drive;
PET/CBM, 16K, disk or 8K cassette
TRS-80 Model I level 2 or Model III, 32K, disk or 16K cassette

Producer: Educational Activities, Incorporated
P. O. Box 392
Freeport, NY 11520
Price: $16.95

55. Title: * MATH BLASTER 1983
Grade Level: 1-6
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP; 4-CN,OP; 5-CN,OP; 6-CN,OP

System Requirement: Apple II, II+, IIe, 48K, Applesoft, joystick (optional); IBM-PC; 64K, joystick (optional); Commodore 64, 64K, joystick optional.

Producer: Davidson and Associates
6069 Groveoak Place, No. 12
Rancho Palos Verdes, CA 90274
Price: $49.95

56. Title: * MATH MAN 1984
Grade Level: 3-8
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 3-OP; 4-OP; 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: Apple II Family; IBM PC

Producer: Scholastic, Incorporated
10833 Monroe Road, Suite 120
Matthews, NC 28105
Price: $39.95

*New program

57. Title: * MATH MAZE 1984
Grade Level: 1-8
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-OP,PS; 2-OP,PS; 3-OP,PS; 4-OP,PS; 5-OP,PS; 6-OP,PS; 7-OP,PS; 8-OP,PS

System Requirement: Apple II Family; Atari; IBM PC

Producer: DCH Software
125 Spring Street
Lexington, MA 02173
Price: $45.00

58. Title: * MATH 1-2-3 FOUR PACK: COUNTING 1984
Grade Level: 1-3
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP

System Requirement: Commodore 64, single disk drive, monitor

Producer: Micro Ed
P. O. Box 444005
Eden Prarie, MN 55344
Price: $34.95

59. Title: MATHEMATICAL CONCEPTS 1982
Grade Level: 4-8
Group Size: Individual, small group
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 4-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II+, 48K, disk drive, Applesoft, game paddle

Producer: Milton Bradley Company
443 Shaker Road
East Longmeadow, MA 01028
Price: $44.95 each box (3 boxes)

*New program

60. Title: MATHEMATIC-TAC-TOE 1983
Grade Level: 1-6
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP; 5-OP; 6-OP

System Requirement: Atari 400/800, 24K, disk or 16K cassette

Producer: Atari Program Exchange
P. O. Box 427
155 Moffett Park Drive
Sunnyvale, CA 94086
Price: $15.95

61. Title: * MATHEMATICS ACTIVITIES COURSEWARE - LEVEL 4 1984
Grade Level: 4
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 4-OP,PS

System Requirement: Apple II Family, 48K, Applesoft, DOS 3.3;
IBM PC, 64K, disk drive, MS-DOS

Producer: Houghton Mifflin Company/TSC Division
P. O. Box 683
Hanover, NH 03755
Price: $165.00 (Multiple set discounts available)

62. Title: * MATHEMATICS ACTIVITIES COURSEWARE - LEVEL 5
Grade Level: 5
Group Size: Individual, pairs, small groups
Instructional Mode: Logic, problem solving, educational game
BSAP OBJECTIVE: 5-OP,PS

System Requirement: Apple II+, IIe, 48K, DOS 3.3; IBM PC, 64K,
color graphics board, color monitor

Producer: Houghton Mifflin Company/TSC Division
P. O. Box 683
Hanover, NH 03755
Price: $150.00

*New program

63. Title: * MATHEMATICS ACTIVITIES COURSEWARE - LEVEL 6 1983
Grade Level: 6
Group Size: Individual, small group
Instructional Mode: Rote drill, skills practice, educational game
BSAP OBJECTIVE: 6-CN,OP,MS,GE,PS

System Requirement: TRS-80 Model III, 16K, cassette recorder, BASIC;
TRS-80 Model III, 32K, disk drive, disk BASIC, TRSDOS;
Apple II, II+, IIe, 32K, disk drive, Applesoft, DOS 3.3;
Radio Shack Color Computer, 32K, cassette recorder, BASIC

Producer: Houghton Mifflin Company/TSC Division
P. O. Box 683
Hanover, NH 03755
Price: $150.00

64. Title: * Mathematics Volume 3 1981
Grade Level: 6-8
Group Size: Individual
Instructional Mode: Drill and practice, tutorial
BSAP OBJECTIVE: 6-GE; 7-GE; 8-GE

System Requirement: Apple II, II+, IIe, 48K, Applesoft

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $30.00

65. Title: MATHWARE, BASIC MATH, SYSTEM S 1981
Grade Level: 2-8
Group Size: Individual
Instructional Mode: Tutorial, drill and practice with classroom management
BSAP OBJECTIVE: 2-CN,OP,MS,GE,PS; 3-CN,OP,MS,GE,PS; 4-CN,OP,MS,GE,PS;
5-CN,OP,MS,GE,PS; 6-CN,OP,MS,GE,PS; 7-CN,OP,MS,GE,PS;
8-CN,OP,MS,GE,PS

System Requirement: Apple II, II+, 48K, disk drive, Applesoft, BASIC,
printer optional

Producer: Math City
4040 Palos Verdes Drive, North
Rolling Hills Estates, CA 90274
Price: $350.00

*New program

66. Title: MATH SEQUENCES 1983
Grade Level: 1-8
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-CN,OP; 2-CN,OP; 3-CN,OP; 4-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP,GE; 8-CN,OP,GE

System Requirement: Apple II+, IIc, 48K, disk drive, Applesoft, DOS 3.3; Atari 400/800, 40K, disk drive, DOS; PET, 8K, cassette recorder, BASIC; TRS-80 Model I,III,IV, 16K, cassette recorder, BASIC

Producer: Milliken Publishing Company
1100 Research Boulevard
St. Louis, MO 63132
Price: $450.00
$200.00 - PET (on tape)
$200.00 - TRS-80 (on tape)

67. Title: MATH WORD GAMES 1983
Grade Level: 3-6
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 3-PS; 4-PS; 5-PS; 6-PS

System Requirement: Apple II, 48K, disk drive, Applesoft, DOS 3.3
PET/CBM, 8K, cassette
TRS-80 Model III, 32K, disk drive

Producer: McGraw-Hill
5925 Peachtree Industrial Boulevard
Chamlee, GA 30341
Price: $38.25

68. Title: MIXED NUMBERS 1982
Grade Level: 6-8
Group Size: Individual or small group
Instructional Mode: Tutorial, drill and practice with classroom management
BSAP OBJECTIVE: 6-OP; 7-OP; 8-OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft BASIC

Producer: Milton Bradley Company
443 Shaker Road
East Longmeadow, MA 01028
Price: $49.95

69. Title: MONEY! MONEY! 1983
Grade Level: 1-5
Group Size: Individual or small group
Instructional Mode: Skills practice, tutorial
BSAP OBJECTIVE: 1-MS; 2-MS; 3-MS; 4-MS; 5-MS

System Requirement: Apple II, IIe, 48K, disk drive, Applesoft DOS 3.3

Producer: Hartley Courseware, Incorporated
P. O. Box 431
Dimondale, MI 48821
Price: $40.00

70. Title: * MOPTOWN HOTEL 1981
Grade Level: 3-8
Group Size: Individual, small group, class
Instructional Mode: Logic and problem solving
BSAP OBJECTIVE: 3-PS; 4-PS; 5-PS; 6-PS; 7-PS; 8-PS

System Requirement: Apple II Family, 48K, disk drive, Applesoft, BASIC and Assembly Language; Atari 800/800XL or 1200XL, 48K, disk drive, BASIC and Assembly Language; Commodore 64, 64K, disk drive, BASIC and Assembly Language; IBM PC, 128K, disk drive, color graphics monitor adapter, BASIC and Assembly Language; IBM PCjr, 128K, disk drive, BASIC and Assembly Language, color monitor recommended.

Producer: The Learning Company
545 Middlefield Road
Menlo Park, CA 94025
Price: $39.95

71. Title: MOPTOWN PARADE 1983
Grade Level: 1-5
Group Size: Individual, small group
Instructional Mode: Tutorial, educational game
BSAP OBJECTIVE: 1-CN,PS; 2-CN,PS; 3-CN,PS; 4-CN,PS; 5-CN,PS

System Requirement: Apple II, IIe, 48K, disk drive, Applesoft, DOS 3.3
Radio Shack, color computer, 16K, disk drive. Extended BASIC

Producer: The Learning Company
545 Middlefield Road
Menlo Park, CA 94025
Price: $50.00

*New program

72. Title: MULTIPLICATION 1 1981
Grade Level: 2-5
Group Size: Individual, small group
Instructional Mode: Skills practice, tutorial
BSAP OBJECTIVE: 2-OP; 3-OP; 4-OP; 5-OP

System Requirement: TI 99/4 or TI 99/4A, speech synthesizer (optional)

Producer: Scott, Foresman and Company
1900 East Lake Avenue
Glenview, IL 60025
Price: $44.95

73. Title: * MULTIPLYING FRACTIONS 1982
Grade Level: 5-8
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 5-CN,OP; 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II+, IIe, 48K, DOS 3.3; Atari, 16K, diskette or cassette; Commodore 64, 64K, diskette or cassette; PET 16K, diskette, 8K, cassette; TRS-80 32K, diskette 16K cassette

Producer: Microcomputer Workshops
225 Westchester Avenue
Port Chester, NY 10573
Price: $24.95 - diskette
$20.00 - cassette

74. Title: * NUMBER STUMPER 1984
Grade Level: 2-4
Group Size: Individual
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 2-CN,OP; 3-CN,OP; 4-CN,OP

System Requirement: Apple II, II+, IIe, 48K, Applesoft

Producer: The Learning Company
545 Middlefield Road
Menlo Park, CA 94025
Price: $39.95

*New program

75. Title: NUMBER WORDS - LEVEL 1 1983
Grade Level: 2-4
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 2-CN; 3-CN; 4-CN

System Requirement: Apple with one disk drive, 48K, monitor, printer (optional)

Producer: Hartley Courseware, Incorporated
P. O. Box 431
Dimondale, MI 48821
Price: $26.95

76. Title: NUMBER WORDS - LEVEL 2 1982
Grade Level: 2-5
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 2-CN; 3-CN; 4-CN; 5-CN

System Requirement: Apple with one disk drive, 48K, monitor, printer (optional)

Producer: Hartley Courseware, Incorporated
P. O. Box 431
Dimondale, MI 48821
Price: $29.95

77. Title: * NUMBERS
Grade Level: 1
Group Size: Individual, pairs
Instructional Mode: Tutorial, drill and practice, educational game
BSAP OBJECTIVE: 1-CN

System Requirement: Commodore 64, disk; PET 8K, cassette, BASIC

Producer: JMH Software of Minnesota, Incorporated
7200 Hemlock Lane
Maple Grove, MN 55369
Price: $10.00 - tape

*New program

78. Title: * PIRATE AND ROUNDING
Grade Level: 4-6
Group Size: Individual, pairs
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 4-CN,OP; 5-CN,OP; 6-CN,OP

System Requirement: Apple II, II+, IIe, 48K, Applesoft, DOS 3.3
TRS-80 Model I/III, 32K

Producer: Diversified Educational Enterprises
715 Main Street
Lafayette, IN 47901
Price:

79. Title: PRESCRIPTIVE MATH DRILL 1981, 1983
Grade Level: 1-4
Group Size: Individual
Instructional Mode: Drill and practice with classroom management
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft BASIC and machine language

Producer: Hartley Courseware, Incorporated
P. O. Box 431
Dimondale, MI 48821
Price: $79.95

80. Title: PROBLEM SOLVING STRATEGIES 1983
Grade Level: 5-8
Group Size: Individual, small group
Instructional Mode: Tutorial, class management
BSAP OBJECTIVE: 5-PS; 6-PS; 7-PS; 8-PS

System Requirement: Apple II, II+, IIe, disk drive, Applesoft DOS 3.3

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $45.00

*New program

81. Title: * RATIO AND PROPORTIONS 1983
Grade Level: 6-8
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II, II+, IIe, 48K, DOS 3.3 Applesoft

Producer: Milton Bradley Company
Microcomputer Software Department
443 Shaker Road
East Longmeadow, MA 01028
Price: $49.95

82. Title: * SALINA MATH GAMES 1984
Grade Level: 3-8
Group Size: Individual
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 3-CN,OP; 4-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II Family; TRS-80 Model III/IV

Producer: Educational Activities
1937 Grand Avenue
Baldwin, NY 11510
Price: $159.00

83. Title: SELL LEMONADE (ELEMENTARY, VOLUME 3) 1982
Grade Level: 4-5 Enrichment, 5-7 Regular, 8-9 Remedial
Group Size: Individual or small groups
Instructional Mode: Simulation
BSAP OBJECTIVE: 4-PS; 5-PS; 6-PS; 7-PS; 8-PS

System Requirement: Apple II, II+, IIe, 48K, DOS 3.3, diskette;
Atari 400/800, diskette

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $38.00 - Apple
$36.00 - Atari

*New program

84. Title: SOCCER MATH 1982
Grade Level: 1-6
Group Size: Individual, small group
Instructional Mode: Educational game
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP; 5-OP; 6-OP

System Requirement: Apple II, 48K, disk drive, Applesoft, DOS 3.3

Producer: Compu-tations, Incorporated
P. O. Box 502
Troy, MI 48099
Price: $24.95 (Version compatible with VOTRAX Type-'n'-Talk(TM) Speech synthesizer, $29.95

85. Title: STICKYBEAR NUMBERS 1983
Grade Level: 1
Group Size: Individual, small group
Instructional Mode: Drill and practice
BSAP OBJECTIVE: 1-CN

System Requirement: Apple II, II+, IIe, 48K, RAM, single disk drive

Producer: Xerox Educational Publications
Computer Software Division
Middletown, CT 06457
Price: $39.95

86. Title: SUPER DRILL AND SUPER DRILL TEACHER 1983
Grade Level: 1-6 Regular, 7-9 Remedial
Group Size: Individual, small group
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 1-OP; 2-OP; 3-OP; 4-OP; 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: Apple II, II+, IIe, 32K, DOS 3.3, diskette

Producer: Total Information Educational Systems (TIES)
Minnesota School Districts Data Processing Joint Board
1925 West County Road B2
St. Paul, MN 5513
Price: $49.95 (including back-up diskette)

87. Title: SURVIVAL MATH 1982, 1983
Grade Level: 6-8
Group Size: Individual, small group
Instructional Mode: Drill and practice, simulation
BSAP OBJECTIVE: 6-CN,OP,MS,PS; 7-CN,OP,MS,PS; 8-CN,OP,MS,PS

System Requirement: Apple II, II+, IIe, DOS 3.3, 32K, disk drive, Applesoft BASIC; Atari 400/800/600XL/800XL/1200XL/1400XL/1450XL, 16K, disk drive, BASIC; Commodore 64, 64K, disk drive, BASIC; TRS-80 Model I/III or IV, 16K, cassette recorder or 32K disk drive, BASIC

Producer: Sunburst Communications, Incorporated
39 Washington Avenue
Pleasantville, NY 10570
Price: $50.00

88. Title: TAXMAN (Elementary, Volume 1) 1982
Grade Level: 4-8
Group Size: Individual, small group
Instructional Mode: Educational game
BSAP OBJECTIVE: 4-CN,PS; 5-CN,PS; 6-CN,PS; 7-CN,PS; 8-CN,PS

System Requirement: Apple II, II+, IIe, 48K, DOS 3.3, diskette
Atari 400/800, 16K, diskette

Producer: Minnesota Educational Computing Consortium (MECC)
3490 Lexington Avenue North
St. Paul, MN 55112
Price: $36.00 - Apple
$37.00 - Atari

89. Title: TEASERS BY TOBBS 1982
Grade Level: 4-8
Group Size: Individual, small group
Instructional Mode: Logic and problem solving, educational game, drill and practice
BSAP OBJECTIVE: 4-OP,PS; 5-OP,PS; 6-OP,PS; 7-OP,PS; 8-OP,PS

System Requirement: Apple II+, IIe, 48K, disk drive, Applesoft BASIC;
Atari 400/800, 24K, disk drive, BASIC;
TRS-80 Model I/III, 16K, cassette recorder or 32K disk drive, BASIC

Producer: Sunburst Communications, Incorporated
39 Washington Avenue
Pleasantville, NY 10507
Price: $49.00 - diskette
$39.00 - cassette

*New program

90. Title: THE ARITHMETIC CLASSROOM 1982
Grade Level: 4-8
Group Size: Individual
Instructional Mode: Drill and practice, tutorial, educational game
BSAP OBJECTIVE: 4-CN,OP; 5-CN,OP; 6-CN,OP; 7-CN,OP; 8-CN,OP

System Requirement: Apple II, II+, IIe, 48K, disk drive, Applesoft BASIC. Game paddle required for one program in the Games package; ACORN, 64K; IBM PCjr, MS DOS 1.1, 2.0 or 2.1 color graphics card, 128K

Producer: Sterling Swift Publishing Company
7901 South I-35
Austin, TX 78744
Price: $49.94 each for the 8 individual lesson packages
$29.95 for the Games package

91. Title: THE FACTORY 1983
Grade Level: 4-8
Group Size: Individual, small group discussion, large group activity
Instructional Mode: Problem solving, simulation
BSAP OBJECTIVE: 4-PS; 5-PS; 6-PS; 7-PS; 8-PS

System Requirement: Atari 400/600XL/800/800XL/1200XL/1400XL/1450XL, 16K, color monitor or TV with adapter and one disk drive; Apple II, II+, IIe; Commodore 64; TRS-80 Color or Color 2 Atari, BASIC, DOS 3.2

Producer: Sunburst Communications, Incorporated
39 Washington Avenue
Pleasantville, NY 10507
Price: $49.00

92. Title: * TRAP-A-ZOID 1983
Grade Level: 5-8
Group Size: Individual
Instructional Mode: Educational game
BSAP OBJECTIVE: 5-GE; 6-GE; 7-GE; 8-GE

System Requirement: Apple II+, IIe, 48K, DOS 3.3; IBM PC, PCjr, 48K, Color graphics monitor adapter; Atari (all models), 48K

Producer: D. C. Heath and Company
185 Berry Street
Building Three, Suite 158
San Francisco, CA 94107
Price: $39.95

*New program

93. Title: WHOLE NUMBERS PRACTICE (PLATO) 1983
Grade Level: 5-8
Group Size: Individual, small group
Instructional Mode: Drill and practice, educational game
BSAP OBJECTIVE: 5-OP; 6-OP; 7-OP; 8-OP

System Requirement: Apple II+, 48K, disk drive, monitor;
Atari 800; TI 99/4A; IBM PC, PCjr, DOS 2.0, 64K

Producer: Control Data Publishing Company
P. O. Box 261127
San Diego, CA 92126
Price: $59.95

SOUTH CAROLINA DEPARTMENT OF EDUCATION
BSAP MATH OBJECTIVES

MATHEMATICS: GRADE ONE

1-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities and representations. These questions may require counting, using concrete objects, comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, establishing relationships between numerical quantities, identifying fractional quantities, estimating, determining place value, or creating or comparing sets.

1-2 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding or subtracting whole numbers.

1-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require telling time, naming days of the week or months of the year, identifying coins, estimating or measuring length or volume in nonstandard units or standard units (metric or customary).

1-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying or comparing geometric shapes.

1-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing a single mathematical operation with whole numbers or monetary amounts. Decision-making and alternative solution strategies may be required. Problems will focus on situations familar to students.

MATHEMATICS: GRADE TWO

2-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities and representations. These questions may require counting, using concrete objects, comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, establishing relationships between numerical quantities, identifying fractional quantities, estimating, determining place value, creating or comparing sets, or interpreting graphs.

2-2 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding, subtracting, or multiplying whole numbers.

2-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require telling time; naming dates, days of the week, or months of the year; identifying currency; estimating or measuring length, weight, volume, or temperature in nonstandard units or standard units (metric or customary).

2-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying or comparing geometric shapes; or identifying symmetrical divisions of geometric shapes.

2-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing a single mathematical operation with whole numbers or monetary amounts. Decision-making and alternative solution strategies may be required. Problems will focus on situations familiar to students.

MATHEMATICS: GRADE THREE

3-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities and representations. These questions may require counting, using concrete objects, comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, using a number line, establishing relationships between numerical quantities, identifying fractional quantities, estimating, determining place value, creating or comparing sets, or interpreting graphs.

3-2 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding, subtracting, multiplying, or dividing whole numbers, or adding or subtracting fractions.

3-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require telling time; naming dates, days of the week, or months of the year; identifying currency; selecting an appropriate measurement unit or measuring device; estimating or measuring length, weight, volume, or temperature in nonstandard units or standard units (metric or customary); or converting units within a measurement system.

3-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying or comparing geometric shapes; or identifying symmetrical divisions of geometric shapes.

3-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing one or more mathematical operations with whole numbers, fractions, or monetary amounts. Decision-making and alternative solution strategies may be required. Problems will focus on situations familiar to students.

MATHEMATICS: GRADE FOUR

4-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities and representations. These questions may require counting, comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, using a number line, establishing relationships between numerical quantities, estimating, determining place value, creating or comparing sets, or interpreting graphs.

4-2 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding, subtracting, multiplying, or dividing whole numbers; or adding or subtracting fractions, mixed numbers, or decimals.

4-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require telling clock or calendar time; selecting an appropriate measurement unit or measuring device; estimating or measuring length, weight, volume, or temperature in metric or customary units; converting units within a measurement system; or performing calculations with measured quantities.

4-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying or comparing geometric figures or identifying properties of geometric figures.

4-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing one or more mathematical operations with whole numbers, fractions, mixed numbers, or decimals. Decision-making and alternative solution strategies may be required. Problems will focus on situations familiar to students.

MATHEMATICS: GRADE FIVE

5-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities and representations. These questions may require counting, comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, using a number line, establishing relationships between numerical quantities, estimating, determining place value, creating or comparing sets, or interpreting graphs.

5-2 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding, subtracting, multiplying, or dividing whole numbers, fractions, mixed numbers, or decimals.

5-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require selecting an appropriate measurement unit or measuring device; estimating or measuring length, weight, volume, or temperature in metric or customary units; converting units within a measurement system; or performing calculations with measured quantities.

5-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying or comparing geometric figures; identifying properties of geometric figures; measuring line segments; or determining the perimeters or areas of geometric figures.

5-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing one or more mathematical operations with whole numbers, fractions, mixed numbers, decimals, or measurement units. The problems may also require applying a geometric formula or using information presented graphically. Decision-making and alternative solution strategies may be required. Problems will focus on situations familiar to students.

MATHEMATICS: GRADE SIX

6-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities and representations. These questions may require counting, comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, using a number line, establishing relationships between numerical quantities, estimating, determining place value, creating or comparing sets, or interpreting graphs.

6-1 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding, subtracting, multiplying, or dividing whole numbers, fractions, mixed numbers, or decimals.

6-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require selecting an appropriate measurement unit or measuring device; estimating or measuring length, weight, volume, or temperature in metric or customary units; converting units within a measurement system; performing calculations with measured quantities; or interpreting scale drawings.

6-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying or comparing geometric figures; identifying properties of geometric figures; measuring line segments; or determining the perimeters or areas of geometric figures.

6-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing one or more mathematical operations with whole numbers, fractions, mixed numbers, decimals, or measurement units. The problems may also require applying a geometric formula or using information presented graphically. Decision-making and alternative solution strategies may be required. Problems will focus on situations familiar to students.

MATHEMATICS: GRADE SEVEN

7-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities and representations. These questions may require comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, establishing relationships between numerical quantities, estimating, determining place value, creating or comparing sets, using formulas, developing or interpreting graphs, using tables, or establishing ratios or proportions.

7-2 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding, subtracting, multiplying, or dividing whole numbers, signed numbers, fractions, mixed numbers, decimals, or percents.

7-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require selecting an appropriate measurement unit or measuring device; estimating or measuring length, weight, volume, or temperature in metric or customary units; converting units within a measurement system; performing calculations with measured quantities; or interpreting scale drawings.

7-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying or comparing geometric figures; identifying properties of geometric figures; or determining the perimeters, areas, or volumes of geometric figures.

7-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing one or more mathematical operations with whole numbers, fractions, mixed numbers, decimals, percents, or measurement units. The problems may also require applying a formula and/or using information presented graphically. Decision-making and alternative solution strategies may be required. Problems will focus on situations familiar to students.

MATHEMATICS: GRADE EIGHT

8-1 CONCEPTS

Objective: The student can apply numerical concepts.

Suggested Measurement Strategy: Answering questions about numerical quantities, and representations. These questions may require comprehending mathematical symbols and terminology, identifying equivalent ways of expressing the same numerical quantity, establishing relationships between numerical quantities, estimating, determining place value, creating or comparing sets, using formulas, developing or interpreting graphs, using tables, or establishing ratios or proportions.

8-2 OPERATIONS

Objective: The student can compute accurately.

Suggested Measurement Strategy: Determining the answers to exercises requiring a mathematical operation. The exercises to be solved may require adding, subtracting, multiplying, or dividing whole numbers, signed numbers, fractions, mixed numbers, decimals, or percents.

8-3 MEASUREMENT

Objective: The student can apply measurement concepts.

Suggested Measurement Strategy: Answering questions about measurement. These questions may require selecting an appropriate measurement unit or measuring device; estimating or measuring length, weight, volume, or temperature in metric or customary units; converting units within a measurement system; performing calculations with measured quantities; or interpreting scale drawings.

8-4 GEOMETRY

Objective: The student can apply geometric concepts.

Suggested Measurement Strategy: Answering questions about geometric representations. These questions may require identifying, comparing, or constructing geometric figures; identifying properties of geometric figures; or determining the perimeters, areas, or volumes of geometric figures.

8-5 PROBLEM SOLVING

Objective: The student can solve problems requiring the use of mathematics.

Suggested Measurement Strategy: Determining the solutions to verbal and nonverbal problems. These problems may require performing one or more mathematical operations with whole numbers, fractions, mixed numbers, decimals, percents, or measurement units. The problems may also require applying a formula and/or using information presented graphically. Decision-making and alternative solution strategies may be required. Problems will focus on situations familiar to students.

EVALUATION OF INSTRUCTIONAL SOFTWARE:
GUIDELINES FROM THE NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS
(Reprinted by permission)

1. INSTRUCTIONAL RANGE

For any given program, the appropriate grade level and ability must be judged according to the particular instructional setting. (A program that is informational at first grade might be remedial at third.) Key factors in determining grade or ability level are the concepts in the program. Other important factors are reading level, prerequisite skills, degree of student control, and intended instructional use. It is possible for a program to be flexible enough to be used across a wide range of grade levels and ability levels.

2. INSTRUCTIONAL GROUPING

The interaction between the learners and a program can be either direct or through an intermediary (the teacher). The first two groupings described below involve direct interaction; the third uses an intermediary.

Individual. Some programs are designed specifically for use by a single person. Programs of this nature may include a summary of individual performance; others may allow a specific level of difficulty - a specific set of spelling words, for example. Programs for individuals may have provisions for easier or more difficult situations, depending on the individual student's response.

Small group. Some programs are specifically designed for use with two, three, or four students. One such example might be an arithmetic fact game involving a car race in which each student can move forward on a correct answer. Other programs for smaller groups might be business simulations in which each small group is a business.

Large group. Large-group use of programs may vary in intent. A program may be used with a large group solely for the purpose of introducing the program for later use by individuals or small groups. Some programs are designed for use by a teacher in graphically demonstrating a concept. (Trigonometric functions provide one example: fraction concepts such as equivalence are another.)

3. EXECUTION TIME

The time required for the use of a program will vary considerably. The load time of the program depends on the complexity of the program and on whether it is being loaded from a cassette tape or a disk. (The disk is a much faster but more expensive storage medium.) The type of program is a factor (e.g., tutorial versus informational). The user will require additional time if responses are consistently incorrect. Another time factor is the degree of user control (i.e., how many options are available to the user). An estimate given as a range is an appropriate response for this item.

4. PROGRAM USES

The classification of programs by the instructional uses to which they are put is difficult. Careful analysis notwithstanding, definitions seem doomed to fuzziness, and a given program may seem to fit in more than one category. Moreover, the use of a given program can often be determined by the classroom practitioner; a program written with one use in mind may be used in completely different ways by each of several persons. In fact, a given person may identify more than one use for a program, leading to the necessity to indicate primary and secondary uses.

Despite the difficulties just noted, there is instructional value in attempting to identify the use or uses of a program. The following definitions are proffered as an aid to the classification of those program uses that appear on the check list. Additional uses are described later in this section.

Drill or practice: Programs that assume previous instruction in the concept, skill, or process to be addressed. They present a controlled sequence of exercises designed to drill the recall of certain pairings (e.g., to associate French verbs and their English counterparts or to recognize musical notes aurally) or to practice some algorithm (e.g., to add two four-digit whole numbers, to sort buttons on the basis of two or more criteria, or to assemble a telephone).

Tutorial: Programs through which the computer assumes total responsibility for instruction. Tutorial programs are characterized by a dialogue between the student and the computer in which the direction and level of the dialogue are shaped by student input. Ideally, such programs would be high fidelity simulations of the best teaching behavior associated with a given topic and would control the variables associated with the what, why, when, and who of the instructional episode.

Simulation: Programs that attempt to represent key aspects of some environment within which the user will experience the necessity to make decisions and will be informed of the results of those decisions without experiencing the real consequences of possible misjudgments. The time required to develop and use simulations with high fidelity is justified in situations where actual experience is ruled out because of extreme expense, safety considerations, or the time required for the actual experience. Simulations include problem-solving tasks (e.g., negotiation of a bank loan, diagnosis of illnesses or equipment failures, genetic experiments, testing theoretical models), procedural tasks (e.g., acidtitration, blasting, the breeding of organisms), and performances (e.g., control of water pollution).

Instructional gaming: Programs calling on the user to apply one or more specific skills or concepts in a game environment. The game dimension of the environment includes the conditions of competition with oneself or others, specific (if arbitrary) rules, the need to develop a winning strategy, and the introduction of random events to force the revision of strategies. This means that the primary objective of the exercise should be the development of general problem-solving skills. This objective is often accompanied by the objective of exercising specific concepts or skills in a new context. Examples of games that have been computerized include chess, Master Mind, and nim.

Problem solving: Programs serving either the student or the instructor; the problem to be investigated may be either within a given subject or within instruction in this subject. In practice, there are two levels of use - one that employs existing programs using known algorithms (e.g., the distance traveled by an object in free-fall during a given period of time) and one that requires the development of a program employing a user-defined algorithm (e.g., a program that finds the sum of distances from proposed locations of six warehouses to each of the establishments to be supplied by those warehouses). In fact, the development of the algorithm itself may be the object of the problem-solving activity.

Informational: Programs designed to generate information (lists of prime numbers, decimal approximations of rational numbers correct to any given number of decimal places, powers or roots of a given number, synonyms for any word from a given list, a list of formulas or rules, etc.). Although such programs might be employed to do problem solving or to construct a program in some other mode, the face value of the program remains that of data generation. They offer very little interaction with the person for whom the data is generated.

A blank at the end of item 4 of the checklist invites the user to specify other program uses. Another six possible program uses are suggested be low.

Demonstration: Programs that assume the intervention of an informed manager (teacher) between the program and the learner. They are designed to permit the manager to pursue the questions and suggestions of students by varying the conditions associated with some concept being developed. (For example, it might permit the variation of weather conditions in investigating their effects on annual production of selected crops.) These programs are generally devoid of textual display relative to their purpose and operation. This lack of text, while precluding direct use of the program by the learner, permits efficient realization of the program's purpose by an informed user (teacher). External documentation is critical to demonstration programs.

Instructional management: Programs designed to aid the user in the flexible and efficient management of such limited instructional resources as time, equipment, workspace, instructional personnel, and consumable materials. Such programs assume, at least in part, the tasks of making instructional diagnoses, giving course assignments, evaluating student progress, keeping student records, and facilitating communication among instructors and students.

Instructional support: Programs designed to facilitate the improvement of instructional products (e.g., worksheets, laboratory activities, newsletters, reports to students or parents), resource location (e.g., listings of publishers, suppliers, materials, or human resources), and product selection (e.g., textbook readability, software evaluation).

Test construction and analysis: Programs to aid in criterion-referenced testing or tailored testing. These programs offer such services as the banking of objectives or test items, item analysis, record-keeping, test generation, and test scoring.

Programming utility: Program building blocks that may be used to construct instructional programs. Their availability allows instructors or programmers to make efficient use of their hardware and their programming time. Examples of such building blocks would include programs that search a student's input for spelling, alphabetize lists, search lists for synonyms, create or delete data files, recall and display selected geometric figures, and translate typed input into spoken words.

Whistles and bells: Programs designed to acquaint the user with those characteristics of a computer system that may have instructional application. Such programs range from those that carefully demonstrate and explain a feature like screen protection (allowing sustained display of a chart or diagram without the possibility of student erasure or write over) to those that mindlessly exercise color and sound for the purpose of selling hardware.

5. USER ORIENTATION: INSTRUCTOR'S POINT OF VIEW

Flexibility. A program may permit the user or instructor to adjust it to accommodate a range of ability levels, several degrees of difficulty with respect to a given user, or the class of concepts involved. This can be accomplished through options presented by the program. For instance, a program dealing with the practice of whole number computation might offer a choice of the operation (addition, subtraction, multiplication, division) or the range of numbers involved (0-10, 0-20, 0-100). Another option might involve the difficulty of the problems presented in terms of the procedure required for a solution (i.e., borrowing versus no borrowing in the subtraction problems). Programs that do not offer such options to the student may have a provision for the execution of such adjustments by the teacher.

Intervention or assistance. Although it is a desirable goal for most programs to operate independently of the classroom teacher, there are programs for which assistance is needed and even desirable. For instance, some drill programs are "unending." Intervention to stop the program is done by the teacher and involves a judgment of what constitutes sufficient program use by a given student. (NOTE: A rating of "low" on "freedom from need to intervene or assist" would mean that considerable teacher intervention or assistance is required.)

6. USER ORIENTATION: STUDENT'S POINT OF VIEW

Quality of directions. Directions need to be concise and clear. They should be developed for the lowest level of use. Some directions can be simplified by the use of an example.

Quality of response. Responses to student input should be low-key and understandable. Responses to incorrect input should be neutral (e.g., "Incorrect. Try again." versus "Wrong, dummy! How could you get this far and know so little?").

Screening formatting. Formatting refers to the physical layout of text and graphics presented on the screen. Examples of poor formatting include a full screen of text with single spacing, too many graphics, continually flashing displays, and text scrolling off the screen. Some good examples

are centering of data, a few items on the screen with the user in control of when the next items appear, and reverse-field printing of key items (i.e., light print against a dark screen versus dark print against a light screen).

Need for external information. A program may require the user to have access to information other than that printed by it. Generally speaking, the more self-contained a program is, the better. However, certain programs intentionally require the use of external items. Examples of such programs include programs dealing with dictionary skills and the use of maps.

Disruption by system error. System errors result in the involuntary termination of a program. They may be introduced by improper calculations, errors in the logic of the program, or input that is conceptually correct but does not meet the form required by the program. Programs written to prevent all systems errors - syntactic errors and improper input - are the most desirable. They can be developed by using special input routines.

Simplicity of student input. A program should ensure that a user knows when and in what form input is needed. Characters with special meanings should be avoided. Input locations on the screen should be standardized throughout the program. Typing requirements should be minimal. If a special type of input is required, an example should be given.

7. CONTENT

Instructional focus and significance. The program's topic should be clearly defined. The instructional objectives of the program must be viewed as important by the instructor. Also, the program should represent a valid use of the computer's capabilities. (The program should not repeat the same set of questions or present problems in exactly one sequence.)

Validity and compatibility. The concepts and terms used should be correct, clear, and precise. The rate of presentation should be consistent with the levels for which the program is intended. The content, terminology, teaching style, and educational philosophy should be consistent with those generally encountered by the student.

8. MOTIVATION AND INSTRUCTIONAL STYLE

There are many options that may increase student motivation or develop a particular instructional style. Some of these options are a function of the hardware being used. Because these features are optional, a column labeled "none," meaning the feature is not present, has been added at the left of the low-high continuum.

Student involvement. The proper degree of involvement will vary with the type of program used. A drill or practice program for one student is highly active, whereas an information program may require little student input. Tutorial programs, being dialogues, should require student involvement.

Student control. Several concepts may be involved here. Options available to the student at the beginning of the program may include different kinds of content, levels of difficulty, or the type of response the student may wish to use. Additional examples of student control include the selection of the number of problems to be done and the provision of help (at the student's request) at any point in the program.

Game format. The use of a game format often generates favorable responses from students. Some examples are mathematics drill as a dragrace or in a tic-tac-toe or concentration format. Caution must be exercised so that the game format does not overshadow the instruction. Note that a game format does not imply that the program use is instructional gaming; a drill program may use a game format. A focus on problem-solving strategies is required for a program to be classified as having an instructional gaming use.

Graphics, animation, color. The functional use of one or more of these features can enhance instruction; their improper or irrelevant application can interfere or cause misconceptions. The uses of graphics, animation, or color must be examined carefully to ensure that they support concept development. One might begin that examination by asking what would be lost if the feature were deleted.

Voice and nonvoice audio. The use of voice input and output has considerable potential. Be aware that the quality and use of voice is dependent on the hardware. The use of nonvoice audio provides an additional means for attracting interest but may be distracting in the classroom.

Light pen. Some programs require the use of a light pen. This can be a good feature if a light pen is available, but a program employing a light pen will be useless without it.

Ancillary materials. Materials external to the program may be used. Some may be provided, but their use may not be required (e.g., pretests or posttests, worksheets, etc.). Others may be necessary but are locally available (e.g., dictionaries or local road maps). Care should be taken to note any materials developed especially for the program that must be supplied by the program's author or publisher.

As in item 4, a blank is left at the end of item 8. This is necessary because the list of special features grows daily; its length is a function both of the subject matter and the computer system involved. The listed features are in relatively common use; other examples include touch panels (the user can execute an instructional task simply by touching the screen with a finger), special keyboards for the physically handicapped, electronic devices that monitor a physical phenomenon (such as water temperture) and use it in the program's execution, and mechanical devices (robots, if you will) that interact with the program.

9. SOCIAL CHARACTERISTICS

Competition and cooperation. Some programs may be written for use by a single student, several students, or the whole class. Competition may be between two or more students or between a student and the computer; it

is generally motivating. The need for cooperation among students, also desirable, might be found in a business simulation that requires several students to operate the business.

Humanizing the computer. Programs may give the computer human characteristics. Some people find this desirable, whereas others wish to emphasize that the computer is a machine. Asking for the student's name may or may not be necessary or desirable. Older students generally find it boring, distracting, or phony.

Moral issues. Items or techniques that at first create interest may be questionable from other points of view. Capital punishment as exhibited by most hangman games is one example; war games are another.

Summary of student performance. A performance summary is a feature inherent to games that result in a winner. Performance on a simulation (e.g., the use of a credit card) also calls for a summary evaluation (e.g., the credit card was cancelled because of the inability to meet payments regularly). Drill programs often conclude with a summary regarding the speed of accuracy of the student's performance. Depending on the manner in which these summaries are presented, they may have either a positive or a negative effect on the learner.

NOTES ON THE DESIGN OR REDESIGN OF THE CHECKLIST

With the exception of the few descriptive requests at the top of the form and in items 1 through 4, the use of the checklist requires only making checks, circling words, or bracketing ranges of dots on judgement scales. The design of the scales in items 5 through 9 was with an eye to consistency; it also consistently expresses the summary prejudices of the writers. For each scale, a rating toward the left-most extreme (identified by such terms as "low," "passive," and "poor") would generally be, for the writers, a negative evaluation of the software. (This technique isn't foolproof. A rating of "low" on "freedom from need for external information" might be desirable for a drill program but is probably neither desirable nor possible with a simulation.) That is, the writers felt that a program should rank high in flexibility, should call for active student involvement, should make good use (if any) of color, and should employ competition in a positive way only. This left-is-negative and right-is-positive arrangement of the scales allows one to get the general sense of an evaluation by scanning the completed checklist. When items are added are altered on the checklist, it would be a good idea to keep this design intact. Thus, should you feel that program control should be within the program itself, you might reword the second part of item 8 to read as follows:

```
low                                   high
 *       *       *       *       *  freedom from student control
```

as rewritten, the word low would continue to be associated with an undesirable characteristic.

SOFTWARE EVALUATION CHECKLIST

PROGRAM NAME _____ SOURCE _____ COST _____

SUBJECT AREA _____ REVIEWER'S NAME: _____ DATE _____

1 INSTRUCTIONAL RANGE

_____ grade level(s)

_____ ability level(s)

2 INSTRUCTIONAL GROUPING FOR PROGRAM USE

individual

small group (size: _____)

large group (size: _____)

3 EXECUTION TIME

_____ minutes (estimated) for average use

4 PROGRAM USE(S)

drill or practice

tutorial

simulation

instructional gaming

problem solving

informational

other (_____)

5 USER ORIENTATION: INSTRUCTOR'S POINT OF VIEW

low				*high*	
•	•	•	•	•	flexibility
•	•	•	•	•	freedom from need to intervene or assist

6 USER ORIENTATION: STUDENT'S POINT OF VIEW

low				*high*	
•	•	•	•	•	quality of directions (clarity)
•	•	•	•	•	quality of output (content and tone)
•	•	•	•	•	quality of screen formatting
•	•	•	•	•	freedom from need for external information
•	•	•	•	•	freedom from disruption by system errors
•	•	•	•	•	simplicity of user input

7 CONTENT

low				*high*	
•	•	•	•	•	instructional focus
•	•	•	•	•	instructional significance
•	•	•	•	•	soundness or validity
•	•	•	•	•	compatibility with other materials used

8 MOTIVATION AND INSTRUCTIONAL STYLE

passive				*active*	
•	•	•	•	•	type of student involvement

low				*high*	
•	•	•	•	•	degree of student control

none	*poor*				*good*	
•	•	•	•	•	•	use of game format
•	•	•	•	•	•	use of still graphics
•	•	•	•	•	•	use of animation
•	•	•	•	•	•	use of color
•	•	•	•	•	•	use of voice input and output
•	•	•	•	•	•	use of nonvoice audio
•	•	•	•	•	•	use of light pen
•	•	•	•	•	•	use of ancillary materials
•	•	•	•	•	•	use of _____

9 SOCIAL CHARACTERISTICS

present and negative	*not present*	*present and positive*	
_____	_____	_____	competition
_____	_____	_____	cooperation
_____	_____	_____	humanizing of computer
_____	_____	_____	moral issues or value judgments
_____	_____	_____	summary of student performance

1. The grade levels and ability levels for a particular program are primarily determined by the concepts involved. Other important factors are reading level, prerequisite skills, degree of student control, and intended instructional use. It is possible for a program to be flexible enough to be used across a wide range of grade levels and ability levels.

2. Some programs are designed for use by individuals. Others have been or can be modified for participation by two or three persons at a time. Simulations or demonstrations often pose opportunities for large-group interaction. A given program may be used in more than one grouping, depending on the instructor.

3. The time required for the use of a program will vary considerably. Include loading time for cassettes. A time range is the appropriate response here.

4. Instructional programs can be categorized according to their uses. Some programs may have more than one use, thus falling into more than one of the following categories:

Drill or practice: Assumes that the concept or skill has been taught previously.

Tutorial: Directs the full cycle of the instructional process; a dialogue between the student and the computer.

Simulation: Models selected, alterable aspects of an environment.

Instructional gaming: Involves random events and the pursuit of a winning strategy.

Problem solving: Uses general algorithms common to one or more problems.

Informational: Generates information (data).

5. These are factors relevant to the actual use of the program from the point of view of an instructor.

Flexibility: A program may allow the user or the instructor to adjust the program to different ability levels, degrees of difficulty, or concepts.

Intervention or assistance: A rating of "low" means considerable teacher intervention or assistance is required.

6. These are factors relevant to the actual use of the program from the point of view of a student.

Directions: The directions should be complete, readable, under the user's control (e.g., should not scroll off the screen until understood), and use appropriate examples.

Output: Program responses should be readable, understandable, and complete. If in response to student input, the output should be of an acceptable tone and consistent with the input request.

Screen formatting: The formats during a program run should not be distracting or cluttered. Labels and symbols should be meaningful within the given context.

External information: A program may require the user to have access to information other than that provided within it. This may include prerequisite content knowledge or knowledge of conventions used by the program designer as well as maps, books, models, and so on.

System errors: System errors result in the involuntary termination of the program.

Input: A program should ensure that a user knows when and in what form input is needed. It should avoid using characters with special meanings, restrict input locations to particular screen areas, and require minimal typing.

7. These are matters relevant to the subject-matter content of the program.

Focus: The program topic should be clearly defined and of a scope that permits thorough treatment.

Significance: The instructional objectives of the program must be viewed as important by the instructor. Also, the program should represent a valid use of the computer's capabilities while improving the instructional process.

Soundness or validity: The concepts and terms employed should be correct, clear, and precise. Other important factors are the rate of presentation, degree of difficulty, and internal consistency.

Compatibility: The content, terminology, teaching style, and educational philosophy of the program should be consistent with those generally encountered by the student.

9. Competition, cooperation, and values are concerns that may be a function of the way a program expresses them. (War gaming and the "hangman" format are sample issues.) Also, the "humanizing" of the computer may serve for motivation or to reduce anxiety, but it also may become tedious, misleading, and counter-productive.

The summary of student performance can be dichotomous (win or lose), statistical (time expended or percent of items correct), or subjective (as in the evaluation of a simulation). It may be for student, teacher, or both.

PRODUCER LIST FOR SOFTWARE INCLUDED IN PUBLICATION

PRODUCER	SOFTWARE TITLES
ADDISON-WESLEY PUBLISHING COMPANY Sand Hill Road Menlo Park, CA 94025	Computer Math Activities, Volumes I - V Computer Math Games, Vol. I
APPLE COMPUTER, INC. 20525 Mariani Avenue Cupertino, CA 95014	LOGO
ATARI PROGRAM EXCHANGE P. O. Box 427 155 Moffett Park Drive Sunnyvale, CA 94086	Mathematic-Tac-Toe LOGO Cubbyholes
C & C SOFTWARE 5713 Kentford Circle Wichita, KS 67220	Learning About Numbers
COMMODORE BUSINESS MACHINES, INC. 1200 Wilson Drive West Chester, PA 19380	LOGO
COMPU-TATIONS, INC. P. O. Box 502 Troy, MI 48099	Soccer Math
CONTROL DATA PUBLISHING COMPANY P. O. Box 261127 San Diego, CA 92126	Whole Numbers Practice (PLATO) Fractions Practice (PLATO) Basic Number Facts (PLATO)
COUNTERPOINT SOFTWARE, INC. 4005 West 65th Street, Suite 218 Minneapolis, MN 55423	Early Games For Young Children
CUISENAIRE COMPANY OF AMERICA, INC. 12 Church Street, Box D New Rochelle, NY 10805	Building Estimation Skills
DAVIDSON AND ASSOCIATES 6069 Groveoak Place, No. 12 Rancho Palos Verdes, CA 90274	Math Blaster
DCH SOFTWARE 125 Spring Street Lexington, MA 02173	Math Maze
D C HEATH AND COMPANY 185 Berry Street Building 3, Suite 158 San Francisco, CA 94107	Trap-a-Zoid

PRODUCERS	SOFTWARE TITLES
DEVELOPMENTAL LEARNING MATERIAL 1 DLM Park Allen, TX 75002	Arcademic Skill Builders Alien Addition Minus Mission Dragon Mix Meteor Multiplication Demolition Division Alligator Mix
DIVERSIFIED EDUCATIONAL ENTERPRISES 715 Main Street Lafayette, IN 47901	Pirate and Rounding
ED-WARE SERVICES 28035 Dorothy Drive Agoura, CA 91301	Introduction to Counting
EDUCATIONAL ACTIVITIES P. O. Box 392 Freeport, NY 11520	Long Division Salina Math Games
EDU-SOFT Box 2560 Berkeley, CA 94702	Integers Count, Add 1, Add 2, Add 3
FOLLETT LIBRARY BOOK COMPANY 4506 Northwest Highway Crystal Lake, IL 60014	Bumble Plot
HARTLEY COURSEWARE, INC. P. O. Box 431 Dimondale, MI 48821	Prescriptive Math Drill Clock Money! Money! Expanded Notation Number Words - Level 1 Number Words - Level 2
HARVARD ASSOCIATES 200 Beacon Street Sommerville, MASS 02143	LOGO
HOUGHTON-MIFFLIN COMPANY/TSC DIVISION P. O. Box 683 Hanover, NH 03755	Mathematics Activities Courseware, Lev.4 Mathematics Activities Courseware, Lev.5 Mathematics Activities Courseware, Lev.6
JMH SOFTWARE OF MINNESOTA, INC. 7200 Hemlock Lane Maple Grove, MN 55369	Numbers
KRELL SOFTWARE 1320 Stony Brook Road Stony Brook, NY 11790	LOGO

PRODUCERS	SOFTWARE TITLES
MCCARTHY-MCCORMICK, INC. 1440 Oak Hills Drive Colorado Springs, CO 80919	It's About Time
MCGRAW HILL 5925 Peachtree Industrial Boulevard Chamlee, GA 30341	Math Word Games
MATH CITY 4040 Palos Verdes Drive, North Rolling Hills Estates, CA 90274	Mathware, Basic Math - System S
MATH SOFTWARE 1233 Blackthorne Place Deerfield, IL 60013	Arithmatic Racing
MEDIA MATERIALS 2936 Remington Avenue Baltimore, MD 21211	Hey, Taxi!
MENTOR SYSTEMS, INC. 962 Deleware Avenue Lexington, KY 40505	Basic Math Skill Game
MICRO ED P. O. Box 444005 Eden Prarie, MN 55344	Math 1-2-3 Four-Pack: Counting
MICROCOMPUTER WORKSHOPS 225 Westchester Avenue Port Chester, NY 10573	Multiplying Fractions
MILLIKEN PUBLISHING COMPANY 1100 Research Boulevard St. Louis, MO 63132	Golf Classic/Compubar Math Sequences
MILTON BRADLEY COMPANY 443 Shaker Road East Longmeadow, MA 01028	Ratio and Proportions Division Skills Decimal Skills Mixed Numbers Mathematical Concepts
MINNESOTA EDUCATIONAL COMPUTING CONSORTIUM PUBLICATIONS (MECC) 3490 Lexington Avenue North St. Paul, MN 55112	Basic Arithmetic Mathematics Volume 3 Bagels Sell Lemonade Taxman Adventures With Fractions Early Addition Growgin's Fractions Problem Solving Strategies Counting

PRODUCERS	SOFTWARE TITLES
QUALITY EDUCATIONAL DESIGN 2924 N. E. Stanton/P. O. Box 12486 Portland, OR 97212	Decimals Fractions Arith-Magic Factoring Whole Numbers
RADIO SHACK EDUCATION DIVISION 1600 Tandy Center Ft. Worth, TX 76102	Essential Math Program K-8 Math Program
RANDOM HOUSE SCHOOL DIVISION 2970 Brandywine Road Atlanta, GA 30341	Galaxy Math Facts Game
SCHOLASTIC, INC. 10833 Monroe Road, Suite 120 Matthews, NC 28105	Math Man
SCHOOL AND HOME COURSWARE, INC. 1341 Bulldog Lane, Suite C Fresno, CA 93710	Decimal Estimation
SCIENCE RESEARCH ASSOCIATES, INC. (SRA) 5060 Riverhill Road Marietta, GA 30067	Arithmetic Games Computer Drill & Instruction: Math Fact Track Classroom Management System: Math Level B
SCOTT, FORESMAN AND COMPANY 1900 East Lake Avenue Glenview, IL 60025	Addition and Subtraction, 1 & 2 Multiplication I Division I Fractions I
SOCIETY FOR VISUAL EDUCATION (SVE) 1345 Diversey Parkway Chicago, IL 60614	Guinness World Records Problem Areas In Math Fractions, Decimals and Percent
STERLING SWIFT PUBLICATIONS 7901 South I-35 Austin, TX 78744	Elementary Math Classroom Learning System The Arithmetic Classroom
SUNBURST COMMUNICATIONS, INC. 39 Washington Avenue Pleasantville, NY 10570	Teasers By Tobbs Explorer Metros: A Metric Adventure Challange Math Survival Math The Factory Color Keys: Strategies In Problem Solving
TERRAPIN, INC. 222 3rd Street Cambridge, MASS 02142	LOGO

PRODUCERS	SOFTWARE TITLES
TEXAS INSTRUMENT P. O. Box 53 Lubbock, TX 79408	LOGO
THE LEARNING COMPANY 4370 Alpine Road Portola Valley, CA 94025	Moptown Hotel Moptown Parade Gertrude's Secrets Gertrude's Puzzles Number Stumper Bumble Plot Bumble Games
TOTAL INFO EDUCATIONAL SYSTEM (TIES) Minnesota School Districts Data Processing Joint Board 1925 West County Road B2 St. Paul, Minn. 55113	Super Drill & Super Teacher Elementary Math
XEROX EDUCATIONAL PUBLICATIONS Computer Software Division Middletown, CT 06457	Sticky Bear Numbers

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